

FROM COMMONPLACE TO OUR DISAPPEARING



Three decades of monitoring migratory shorebirds across Australia have shown that many species are declining rapidly. **Richard Fuller** and **Eduardo Gallo** reveal that despite ongoing conservation efforts throughout the East Asian-Australasian Flyway, the decline of these fascinating long-distance migrants continues.

“The sky was black with [Eastern] Curlew as they flew over the Orielton Causeway where we would hide to shoot them.” These are the haunting words of an elderly local interviewed in the 1980s, recounting his experiences of hunting Eastern Curlews just outside Hobart. This account highlights how rapidly common migratory shorebirds can decline—despite conservation efforts for the species, Eastern Curlew is all but extinct in Tasmania today.

The migratory range of many shorebirds spans anywhere between Siberia and Alaska to Australia and New Zealand, so estimating their population trends is a real challenge. These birds also occur in very low densities in their breeding grounds, which hampers efforts to count them in the northern hemisphere. Australia, however, is home to a large proportion of the non-breeding range for many species, making estimates of population trends here

CRITICALLY ENDANGERED: MIGRATORY SHOREBIRDS



representative of the full scale of the East Asian-Australasian Flyway. Australia's technical and financial capacity has also facilitated the active monitoring of these birds across a range of sites. Pivotal in this has been a veritable army of highly skilled volunteers who have kept track of our shorebirds through regular counts, coordinated by various bird study groups and conservation organisations around the country.

The decline of migratory shorebirds picked up by this monitoring seems to have been widespread across Australia—for instance, the numbers of Eastern Curlews at Orielton Lagoon in south-eastern Tasmania has been decreasing since at least the 1960s. In addition to this, many of the shorebird hotspots around the nation have played host to dramatic shorebird declines: including Eighty Mile Beach and Roebuck Bay in WA, Moreton Bay in Queensland, Corner Inlet in Victoria, and South Australia's Coorong. Similar trends are also being observed at sites harbouring much smaller numbers of these amazing birds. For instance, Long Reef, a small rock platform in Sydney's northern beaches, was visited by about 60 Pacific Golden Plovers during summer in the early 1940s—while more recently it has been rare to see more than 20 individuals.

After more than three decades of counting migratory shorebirds, some general patterns have emerged. It is clear that at least 12 shorebird species are declining across Australia; for example, Eastern Curlew has decreased nationally by 80 per cent over the past 30 years.

MIGRATORY SHOREBIRDS



Consequently, the Australian Government's Department of the Environment has just listed this species, along with Curlew Sandpiper, as Critically Endangered under Commonwealth environmental legislation. In addition to this, BirdLife Australia's Research and Conservation Committee recently recommended the uplisting of seven migratory shorebird taxa under the Action Plan for Australian Birds, as well as the listing of Red-necked Stint as Near Threatened. Two of these species, the Eastern Curlew and Great Knot—both of which are endemic to our flyway—have already been listed as globally threatened.

The epic migrations undertaken by shorebirds make them very special. For example, the Bar-tailed Godwit can fly non-stop for over 11,000 km, crossing vast oceans and landmasses, while others make a series of shorter hops to reach their breeding grounds. These long journeys can also make them vulnerable. Shorebirds usually visit multiple countries to complete their life cycle, and during their long migrations, many birds stop to rest and feed *en masse* along the coastline of the Yellow Sea. During the northern migration, a fifth of the flyway population of Great

Knots stops at Yalu Jiang National Nature Reserve and almost half of the flyway population of Red Knots stops at Bohai Bay—both sites in the highly threatened Yellow Sea. This reliance on the Yellow Sea by some species means that habitat loss there could have disproportionate effects on shorebird populations flyway-wide.

Understanding why these species are declining has been no easy task, as pinpointing individual causes is difficult—however a range of threats is now apparent. The Yellow Sea has lost nearly two-thirds of its intertidal habitats to coastal reclamation in the last five decades, and this is widely believed to be one of the most significant threats to migratory shorebirds in this flyway. Other threats may also be at play but are more difficult to assess, such as hunting. For instance, at least 5,000 Pacific Golden Plovers were hunted between 1985 and 2010 outside Australia, but the full extent of this figure and its effects at a population level remain unknown. Other threats to migratory shorebirds include changes to flow regimes in Australia's inland wetlands, pollution of tidal flats, disturbance at coastal sites, and climate change, particularly in the Arctic.

Conserving migratory shorebirds is only possible through international coordination and cooperation. Isolated conservation actions can yield little value for migratory species, because efforts in one country often also require action in another. Encouragingly, an international policy framework has been developed which addresses the conservation needs of migratory shorebirds both in Australia and in the flyway at large. There are several legally binding arrangements, such as bilateral migratory bird agreements, and non-legally binding voluntary agreements, such as the East Asian-Australasian Flyway Partnership (EAAFP). Many countries have explicitly expressed their concern about the conservation of these species. Perhaps one of the best examples is the Kushiro Initiative, which led to the formation of the EAAFP, in which representatives attending a workshop in December 1994 agreed that “the current decline in the numbers of migratory waterbirds [including shorebirds] in the flyway and the degradation and loss of wetland habitats on which these species depend, should be stopped and reversed”.

Despite the decline of many species of migratory shorebirds, we do have some

success stories. Recent analysis from the University of Queensland has revealed that about 40 per cent of intertidal habitats in Australia occur within formally protected areas. Additionally, hunting of migratory shorebirds in Australia was totally banned as a result of the bilateral migratory bird agreement signed between Australia and Japan in 1974. To show how far we have come it's worth remembering that Latham's Snipe was subject to an open hunting season in Australia until the early 1980s. A hunting licence for "snipe" cost five dollars in Tasmania, and at least 2,800 birds were shot in the state alone during the 1970s. Hunting of this species was also formerly permitted in Victoria, South Australia, New South Wales and Queensland.

As well as these on-ground actions to protect migratory shorebirds, research and monitoring, which are fundamental to guide conservation policy and actions, have been leveraged by the existence of international arrangements. The National Bird Banding Centre of China, for example, has received support from Japan in the context of the bilateral migratory bird agreement signed between these two countries in 1981.

Migratory shorebirds, as with many other migratory species, represent one of the biggest challenges to biodiversity conservation in Australia. Their biology and the threats posed to them are intricate, and any effort to ensure their survival is often framed by the complexity of international relations. Now more than ever we need to continue our work resolutely, learning from the lessons of the past and planning strategically in a coordinated fashion. The potential of concerned Australians could perhaps be best harnessed through continued and increased involvement in high quality monitoring of migratory shorebirds, exercising advocacy at various levels, and supporting the membership and efforts of conservation organisations. Incremental progress is being made—but we need a Herculean effort if Eastern Curlews are once again to become a common sight at Orielton Lagoon in Tasmania.

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Opposite: A flock of Red Knots—a species highly dependent on the Yellow Sea—landing at Mud Islands, Victoria. Photo by John Barkla



Eastern Curlew

The largest migratory shorebird to visit Australia, it breeds in wetlands in the boreal forest of eastern Russia and north-eastern China, and spends its non-breeding season primarily in Australia. This species has declined by 80 per cent over 30 years in Australia and has recently been listed as Critically Endangered under Commonwealth environmental legislation.

Photo by Dean Ingwersen



Bar-tailed Godwit

This species breeds in the high Arctic and two subspecies visit Australia, *baueri* along the east coast, and *menzbieri* in north-western Australia. The latter subspecies has been proposed for uplisting from Vulnerable to Endangered under the Action Plan for Australian Birds.

Photo by Chris Tzaros



Terek Sandpiper

The upturned bill of this shorebird makes it distinctive. This species breeds in the tundra and boreal forest and spends its non-breeding season along coastal habitats from southern Africa to New Zealand. RACC has recommended uplisting of this species from Least Concern to Vulnerable.

Photo by Andrew Silcocks



Great Knot

This species relies heavily on intertidal habitats, where it feeds largely on small snails and bivalves. It breeds in the high Arctic and uses the Yellow Sea *en masse* during migration. It spends its non-breeding season across India, South East Asia, and Australia. This species is currently considered Vulnerable globally.

Photo by David Stowe



Red Knot

Another species that is highly reliant on the Yellow Sea, the Red Knot comprises two subspecies in Australia, both of which have been recommended for uplisting from Vulnerable to Endangered. It breeds in the high Arctic tundra.

Photo by Gerard Satherley



Curlew Sandpiper

This species breeds in the Russian Arctic and spends its non-breeding season from as far west as Guinea-Bissau to as far east as New Zealand. In Australia, it occurs on inland wetlands as well as along the coast. It has now been listed as Critically Endangered under Commonwealth environmental legislation.

Photo by Rob Drummond



Red-necked Stint

This species, weighing only 30 grams, is endemic to the East Asian-Australasian Flyway. It breeds in the high Arctic and escapes to South East Asia, Australia and New Zealand to avoid the northern winter. RACC has recommended uplisting of this species from Least Concern to Near Threatened.

Photo by Rob Drummond



Eastern Curlews at Roebuck Bay

On a still evening in late February, air saturated with moisture and insects, Broome Bird Observatory Warden Jaime Jackett listens for the mellow mourning of the season's first northbound Eastern Curlew.

If it's a shorebird spectacle you're after, then March truly is the best time of year to be in Roebuck Bay. The 175 square kilometres of mudflat exposed at low-tide are packed with thousands upon thousands of feeding birds, greedily gobbling up the tiny creatures of the benthos, and moulting into, or strutting about in, their full breeding season finery.

They come to Roebuck Bay to feed and fatten up before taking on the massive, often non-stop, flight to the Yellow Sea, where many refuel before finishing their migration to breeding grounds in Russia. And it is from these shores of Roebuck Bay that researchers and Broome Bird Observatory wardens have been watching them leave, every evening from four until six—from sometime in early March until sometime in mid-May—for the past 20 years.

And so it was this Eastern Curlew flying over the grounds that starlight night that marked the start of Migration Watch 2015. Each evening we hoisted scopes over shoulders and bins around necks, and headed down to the bay to watch for *zugunruhe*.

Zugun-what?

'Pre-migratory restlessness' is the definition of this delightful German addition to ornithological science lingo. For the observer, *zugunruhe* means witnessing the waders as they prepare for their arduous journey; some gather in groups, generally single species, and form neat little lines, east to west, on the mud. Some flap, some chatter, some jump about, some stand still, perhaps contemplating the long journey ahead. And some loiter.

Meanwhile Eastern Curlews fly in, suspiciously silent, to settle on the mud surrounded by literally thousands of feeding birds: Great Knot, Red Knot, Common Redshank and Asian Dowitcher, amongst many others. The curlew they pay them no mind, and do not take one mouthful of muddy critters; they are preparing to migrate, and they do so by simply standing

there—loitering. Obvious because of their relative size and stupendously long down-curved bill, they wait awkwardly, like delinquent teenagers on the lookout while their mates steal packets of cigarettes. They don't appear to acknowledge the newcomers dropping in silently from the sky, but you can imagine them glancing over to them with shifty eyes, silently communicating their covert plans.

It's a telepathic decision, it seems, for they stretch their wings unanimously and lift into the air, calling with anxious excitement. They circle and gain height, flapping higher and higher into the sky... before taking a dive and dropping back down to the mud.

They'll do these practice runs several more times before nightfall, when the Eastern Curlew generally prefer to leave. To navigate by the stars? No one really knows. Shorebirds are mysterious that way.

Above: A pair of Eastern Curlews coming in to land amid a loose flock of Whimbrels and Bar-tailed Godwits at Roebuck Bay, Broome. The bird on the left is the female, which can be distinguished by its longer bill. Photo by Andrew Silcocks